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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

LEE, R

ART UNIT	PAPER NUMBER
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2613

DATE MAILED:

04/30/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.
09/227,174

Applicant(s)
Piazza et al

Examiner
Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 12, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15, and 16 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 8 20) ☐ Other:

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1. Applicants' arguments from the amendment filed February 12, 2001 have been noted and considered, but are deemed moot in view of the following new grounds of rejections.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6, 7, 9, and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Eto et al (5,652,823).

Eto et al discloses a video data encoder and decoder as shown in Figures 1, 2, 7, and 15, and the same method, apparatus, and circuit for generating motion compensated video as claimed in claims 1, 2, 4, 6, 7, 9, and 11-13, comprising the same receiving a motion compensation command (i.e., decoding control circuit 25 of Figure 7, see column 24, lines 5-67) having associated correction data related to a macroblock; storing correction data in a memory (i.e., 16 of Figure 7 and see Figure 15I, column 35, lines 13-30) corresponding to the motion compensation command; performing frame prediction operations (see Figure 2) in response to the motion compensation command; reading the correction data from the memory according to a second order (see Figure 15J and column 35, lines 13-30); combining the correction data with results from the frame prediction operations to generate an output video frame (i.e., as provided by 413 of Figure 2, see column 24, lines 5-67); wherein the first order is based on output from an IDCT operation (see Figure 2 and column 24, lines 5-13); wherein the motion compensation data

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includes at least one motion vector (see column 33, lines 18-34); a command stream controller (i.e., 17 of Figure 7 and see column 24, lines 14-36) coupled to receive an instruction to manipulate motion compensated video data; a write address generator coupled to the command stream controller (see column 35, lines 13-30); a memory (i.e., 16 of Figure 7) coupled to the command stream controller and to the write address generator, the memory to store pixel data in a first order determined by the write address generator (see Figure 15I and column 35, lines 13-30); processing circuitry coupled to the write address generator to receive control information and data from the command stream controller to generate a reconstructed video frame (see Figures 2 and 7); a read address generator (see column 35, lines 13-30) coupled to the processing circuitry and to the memory, the read address generator to cause the memory to output pixel data in a second order (see Figure 15J, and column 35, lines 13-30); and wherein the first order is block by block row major order (see column 4).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3, 5, 8, 10, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eto as applied to claims 1, 2, 4, 6, 7, 9, and 11-13 in the above paragraph (3), and further in view of Mizobata et al of record (5,892,518).

Eto discloses substantially the same method, apparatus, and circuit for generating motion compensated video as above, but does not particularly disclose the followings:

(a) wherein performing frame prediction operations comprises generating a bounding box containing the macroblock, iterating the bounding box, fetching reference pixels, filtering the reference pixels, averaging the filtered reference pixels, if necessary, and adding correction data to the reference pixels as claimed in claims 3 and 8;

(b) performing texturing operations for the macroblock as claimed in claims 5 and 10; and

(c) the processing circuitry comprises a setup engine that determines a bounding box for pixels manipulated by the instruction, wherein the bounding box contains all edges of a macroblock and wherein the processing circuitry comprises a windower having a first mode wherein pixels inside a triangle within a bounding box are processed and a second mode wherein all pixels within the bounding box are processed as claimed in claims 15 and 16.

Regarding (a) to (c), Mizobata et al discloses an image generating apparatus with pixel calculation circuit including texture mapping and motion compensation as shown in Figures 1, 2, 4A, 4B, 9, 10-12, 14A, 14B, 16, 17, 19A, 19B, 21, 22, 40, 41, and 43, and teaches substantially the same frame prediction operations comprising means for generating a bounding box, means for iterating the bounding box, means for fetching reference pixels, means for filtering the reference

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pixels, means for averaging the filtered reference pixels, if necessary, and means for adding correction data to the reference pixels (see 3009, 3010 of Figure 40, Figures 9-12, and 41-43); means for performing texturing operations for the macroblock (see Figures 10-12, and columns 28-30); and processing circuitry comprising a setup engine that determines a bounding box for pixels manipulated by the instruction, wherein the bounding box contains all edges of a macroblock and wherein the processing circuitry comprises a windower having a first mode wherein pixels inside a triangle within a bounding box are processed and a second mode wherein all pixels within the bounding box are processed (see Figures 9-12, 40-43). Therefore, it would have been obvious to one of ordinary skill in the art, having the Eto and Mizobata et al references in front of him/her and the general knowledge of motion compensation and texture image processings, would have had no difficulty in providing the bounding box of macroblock data including the manipulation of pixels thereby containing all edges of a macroblock as well as texture operations as taught by Mizobata et al for the video imaging system of Eto for the same well known purposes as claimed.

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6306 (for informal or draft communications, please label


"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

4/30/01

